

WHAT IS CLAIMED IS:

1. A method for fabricating a gas turbine engine, said method comprising:

coupling an engine casing circumferentially around a gas turbine engine; and

coupling an engine containment wrap to the gas turbine engine, such that the containment wrap circumscribes at least a portion of the gas turbine engine casing, wherein the containment wrap includes a plurality of layers coupled together such that a first layer is formed from at least three sheets coupled together such that a first sheet is formed from a plurality of fibers that are oriented substantially in a first direction, a second sheet is formed from a plurality of fibers oriented in a second direction that is offset approximately forty-five degrees from the first sheet, and such that a third sheet is formed from a plurality of fibers that are oriented substantially parallel to the first direction, and wherein the plurality of first sheet fibers are aligned substantially axially with the respect to the gas turbine engine.

2. A method in accordance with Claim 1 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling a fourth sheet to the third sheet such that a plurality of fibers within the fourth sheet are oriented in a direction that is offset approximately ninety degrees from the orientation of the fibers within the second sheet.

3. A method in accordance with Claim 1 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling an engine containment wrap to the engine that includes a first layer that is fabricated from a fiberglass material.

4. A method in accordance with Claim 1 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling the first layer to the gas turbine engine such that the first layer formed is at least approximately 0.09 inches thick.

5. A method in accordance with Claim 1 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling a second layer to the first layer, wherein the second layer is formed from at least three sheets coupled together such that a first sheet within the second layer includes a plurality of fibers that are oriented substantially in a direction that is substantially perpendicular to the orientation of the fibers within the first layer first sheet, and such that a second sheet within the second layer includes a plurality of fibers that are oriented in a second direction that is offset approximately forty-five degrees from the second layer first sheet.

6. A method in accordance with Claim 1 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling an engine containment wrap to the gas turbine engine that includes a second layer that is fabricated from a graphite material.

7. A method in accordance with Claim 1 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling a second layer to the first layer such that the second layer formed is at least 0.175 inches thick.

8. A method in accordance with Claim 7 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling a third layer to the second layer, wherein the third layer is formed from at least three sheets coupled together such that a first sheet within the third layer includes a plurality of fibers that are oriented substantially in a direction that is substantially parallel to the to the orientation of the fibers within the first layer first sheet, and such that a second sheet within the third layer includes a plurality of fibers that are oriented in a second direction that is offset approximately forty-five degrees from the third layer first sheet.

9. A method in accordance with Claim 7 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling an engine containment wrap to the engine that includes a third layer that is formed from a fiberglass material.

10. A method in accordance with Claim 7 wherein coupling an engine containment wrap to the gas turbine engine further comprises coupling the third layer to the second layer such that the third layer formed is at least approximately .09 inches thick.

11. A containment apparatus for a gas turbine engine including an engine casing, said containment apparatus comprising a first layer comprising a plurality of sheets that each comprise a plurality of fibers, a first of said plurality of sheets coupled to the gas turbine engine casing such that said first sheet circumscribes at least a portion of the casing and such that said first sheet plurality of fibers are aligned substantially axially with respect to said gas turbine engine, a second of said plurality of sheets coupled to said first sheet such that said second sheet plurality of fibers are aligned approximately forty-five degrees offset from said first sheet plurality of fibers, a third of said plurality of sheets coupled to said second sheet such that said third sheet plurality of fibers are aligned substantially parallel to said first sheet plurality of fibers.

12. A containment apparatus in accordance with Claim 11 wherein said first layer further comprises a fourth sheet coupled to said third sheet such that said fourth sheet plurality of fibers are aligned approximately ninety degrees offset from said second sheet plurality of fibers.

13. A containment apparatus in accordance with Claim 11 wherein said first layer comprises a fiberglass material.

14. A containment apparatus in accordance with Claim 11 wherein said first layer is approximately 0.09 inches thick.

15. A containment apparatus in accordance with Claim 11 further comprising a second layer comprising a plurality of sheets that each comprise a plurality of fibers, said second layer plurality of sheets comprising at least a first sheet and a second sheet, said first sheet coupled against said first layer, such that said first sheet circumscribes at least a portion of said gas turbine engine and such that said

second layer first sheet plurality of fibers are aligned substantially perpendicular to the engine axial direction, said second sheet coupled to said second layer first sheet such that said second sheet plurality of fibers are aligned approximately forty-five degrees offset from second layer first sheet plurality of fibers.

16. A containment apparatus in accordance with Claim 15 wherein said second layer comprises a graphite material.

17. A containment apparatus in accordance with Claim 15 wherein said second layer is approximately 0.175 inches thick.

18. A containment apparatus in accordance with Claim 15 further comprising a third layer comprising a plurality of sheets that each comprise a plurality of fibers, said third layer plurality of sheets comprises at least a first sheet and a second sheet, said third layer first sheet coupled to said second layer such that said third layer first sheet plurality of fibers are aligned substantially axially, said third layer second sheet coupled to said third layer first sheet such that said second sheet plurality of fibers are aligned approximately forty-five offset degrees from said third layer first sheet plurality of fibers.

19. A containment apparatus in accordance with Claim 18 wherein said third layer comprises a fiberglass material.

20. A containment apparatus in accordance with Claim 18 wherein said third layer is approximately .09 inches thick.